

## CLAIMS

1. A communication apparatus which has IP  
(Internet Protocol) communication means and  
transmits/receives communication data to/from a  
5 communication partner station discriminated by a  
telephone number, comprising:

IP address obtaining means for obtaining an IP  
address of the communication partner station from a  
predetermined server based on the telephone number of  
10 the communication partner station; and

control means for transmitting/receiving on an  
IP network the communication data to/from the  
communication partner station by using the obtained  
IP address of the communication partner station,  
15 based on a predetermined data transmission/reception  
protocol.

2. A communication apparatus according to Claim  
1, wherein the predetermined server is an SIP  
(Session Initiation Protocol) proxy server, and said  
20 IP address obtaining means obtains the IP address of  
the communication partner station from said SIP proxy  
server based on an SIP protocol.

3. A communication apparatus according to Claim  
1, further comprising:

25 facsimile signal communication means for  
performing communication of a facsimile signal; and  
VoIP (Voice over Internet Protocol)

communication means for transmitting/receiving a frame obtained by digitally encoding the facsimile signal output from said facsimile signal communication means and adding the IP address.

5           4. A communication apparatus according to Claim 3, wherein facsimile communication is performed with the communication partner station through an ADSL (Asymmetric Digital Subscriber Line) gateway for connecting bands obtained by frequency-dividing ADSL  
10 with a splitter respectively to the IP network and a line switching network, the IP network, and a facsimile gateway for receiving the digitally converted facsimile signal from the IP network and transmitting the received signal to the communication  
15 partner station through the line switching network.

5. A communication apparatus according to Claim 3, wherein

said IP address obtaining means judges by analyzing the telephone number of the communication  
20 partner whether or not the communication with the communication partner station through a VoIP transmission path is possible, and

when it is judged that the communication with the communication partner station through the VoIP  
25 transmission path is possible, said IP address obtaining means attempts to obtain the IP address of the communication partner station from the

predetermined server, and said control means transmits/receives on the IP network the communication data to/from the communication partner station by using the obtained IP address of the communication partner station, based on the predetermined data transmission/reception protocol.

6. A communication apparatus according to Claim 1, wherein it is controlled by said control means to obtain the IP address of the communication partner station from the predetermined server based on the telephone number of the communication partner station by using a predetermined UDP (User Datagram Protocol), and further transmit/receive the communication data to/from the communication partner station by using the obtained IP address of the communication partner station on the basis of a predetermined TCP (Transmission Control Protocol).

7. A communication apparatus according to Claim 3, further comprising data communication means for performing the data communication by using a data transmission/reception protocol which is not a VoIP procedure signal used by said VoIP communication means and a facsimile procedure signal used by said facsimile signal communication means,

wherein said control means performs image communication by selectively using said VoIP communication means and said data communication means.

8. A communication apparatus according to Claim 3, wherein said VoIP communication means is a VoIP codec for converting an analog voice signal into a digital signal.

5           9. A communication system which includes a communication apparatus having IP (Internet Protocol) communication means and transmitting/receiving communication data to/from a communication partner station discriminated by a telephone number,  
10 comprising:

IP address obtaining means for obtaining an IP address of the communication partner station from a predetermined server based on the telephone number of the communication partner station; and

15           control means for transmitting/receiving on an IP network the communication data to/from the communication partner station by using the obtained IP address of the communication partner station, based on a predetermined data transmission/reception  
20 protocol,

wherein the communication partner station is a facsimile gateway, and the facsimile gateway transfers image data received from said communication apparatus according to a non-facsimile procedure to a  
25 destination communication apparatus according to a facsimile procedure.

10. A control method of a communication

apparatus having an IP communication means and transmitting/receiving communication data to/from a communication partner station discriminated by a telephone number, said method comprising:

- 5           an IP address obtaining step of obtaining an IP address of the communication partner station from a predetermined server based on the telephone number of the communication partner station; and

          a control step of transmitting/receiving on an  
10 IP network the communication data to/from the communication partner station by using the obtained IP address of the communication partner station, based on a predetermined data transmission/reception protocol.

- 15           11. A control method according to Claim 10, wherein the predetermined server is an SIP proxy server, and the IP address of the communication partner station is obtained from the SIP proxy server based on an SIP protocol.

- 20           12. A control method according to Claim 10, further comprising:

          a facsimile signal communication step of performing communication of a facsimile signal; and

- a VoIP communication step of  
25 transmitting/receiving a frame obtained by digitally encoding the facsimile signal output in said facsimile signal communication step and adding the IP

address.

13. A control method according to Claim 12,  
wherein the communication apparatus performs  
facsimile communication with the communication  
5 partner station through an ADSL gateway for  
connecting bands obtained by frequency-dividing ADSL  
with a splitter respectively to the IP network and a  
line switching network, the IP network, and a  
facsimile gateway for receiving the digitally  
10 converted facsimile signal from the IP network and  
transmitting the received signal to the communication  
partner station through the line switching network.

14. A control method according to Claim 12,  
wherein  
15 it is judged in said IP address obtaining step  
by analyzing the telephone number of the  
communication partner whether or not the  
communication with the communication partner station  
through a VoIP transmission path is possible, and  
20 when it is judged that the communication with  
the communication partner station through the VoIP  
transmission path is possible, said IP address  
obtaining step attempts to obtain the IP address of  
the communication partner station from the  
25 predetermined server, and said control step  
transmits/receives on the IP network the  
communication data to/from the communication partner

station by using the obtained IP address of the communication partner station, based on the predetermined data transmission/reception protocol.

15. A control method according to Claim 10,  
5 wherein it is controlled in said control step to obtain the IP address of the communication partner station from the predetermined server based on the telephone number of the communication partner station by using a predetermined UDP, and further  
10 transmit/receive the communication data to/from the communication partner station by using the obtained IP address of the communication partner station on the basis of a predetermined TCP.

16. A control method according to Claim 12,  
15 further comprising a data communication step of performing the data communication by using a data transmission/reception protocol which is not a VoIP procedure signal used in said VoIP communication step and a facsimile procedure signal used in said  
20 facsimile signal communication step,

wherein said control step performs image communication by selectively using said VoIP communication step and said data communication step.

17. A control method according to Claim 12,  
25 wherein said VoIP communication step uses a VoIP codec for converting an analog voice signal into a digital signal.

18. A control method according to Claim 10,  
wherein the communication partner station is a  
facsimile gateway, and the facsimile gateway  
transfers image data received from the communication  
5 apparatus according to a non-facsimile procedure to a  
destination communication apparatus according to a  
facsimile procedure.

19. A control program for a communication  
apparatus having an IP communication means and  
10 transmitting/receiving communication data to/from a  
communication partner station discriminated by a  
telephone number, said method comprising:

an IP address obtaining step of obtaining an IP  
address of the communication partner station from a  
15 predetermined server based on the telephone number of  
the communication partner station; and

a control step of transmitting/receiving on an  
IP network the communication data to/from the  
communication partner station by using the obtained  
20 IP address of the communication partner station,  
based on a predetermined data transmission/reception  
protocol.

20. A control program according to Claim 19,  
wherein the predetermined server is an SIP proxy  
25 server, and the IP address of the communication  
partner station is obtained from the SIP proxy server  
based on an SIP protocol.



21. A control program according to Claim 19,  
further comprising:

a facsimile signal communication step of  
performing communication of a facsimile signal; and

5 a VoIP communication step of  
transmitting/receiving a frame obtained by digitally  
encoding the facsimile signal output in said  
facsimile signal communication step and adding the IP  
address.

10 22. A control program according to Claim 21,  
wherein the communication apparatus performs  
facsimile communication with the communication  
partner station through an ADSL gateway for  
connecting bands obtained by frequency-dividing ADSL  
15 with a splitter respectively to the IP network and a  
line switching network, the IP network, and a  
facsimile gateway for receiving the digitally  
converted facsimile signal from the IP network and  
transmitting the received signal to the communication  
20 partner station through the line switching network.

23. A control program according to Claim 21,  
wherein

it is judged in said IP address obtaining step  
by analyzing the telephone number of the  
25 communication partner whether or not the  
communication with the communication partner station  
through a VoIP transmission path is possible, and

when it is judged that the communication with the communication partner station through the VoIP transmission path is possible, said IP address obtaining step attempts to obtain the IP address of the communication partner station from the predetermined server, and said control step transmits/receives on the IP network the communication data to/from the communication partner station by using the obtained IP address of the communication partner station, based on the predetermined data transmission/reception protocol.

24. A control program according to Claim 21, wherein it is controlled in said control step to obtain the IP address of the communication partner station from the predetermined server based on the telephone number of the communication partner station by using a predetermined UDP, and further transmit/receive the communication data to/from the communication partner station by using the obtained IP address of the communication partner station on the basis of a predetermined TCP.

25. A control program according to Claim 21, further comprising a data communication step of performing the data communication by using a data transmission/reception protocol which is not a VoIP procedure signal used in said VoIP communication step and a facsimile procedure signal used in said

facsimile signal communication step,

wherein said control step performs image communication by selectively using said VoIP communication step and said data communication step.

5           26. A control program according to Claim 21, wherein said VoIP communication step uses a VoIP codec for converting an analog voice signal into a digital signal.

          27. A gateway apparatus which includes IP  
10 communication means, transmits/receives communication data to/from a first partner station, and transmits/receives communication data to/from a second partner station according to a facsimile procedure, comprising:

15           obtaining means for obtaining a telephone number of the second partner station or an IP address of the first partner station on the basis of an SIP; and

          control means for connecting, by using the  
20 obtained telephone number of the second partner station or the obtained IP address of the first partner station, the corresponding partner station, and transmitting/receiving the communication data to/from the corresponding partner station on the  
25 basis of a facsimile protocol.

          28. A control method of a gateway apparatus including an IP communication means,

transmitting/receiving communication data to/from a first partner station by using the IP communication means, and transmitting/receiving communication data to/from a second partner station according to a facsimile procedure by using the IP communication means, said method comprising:

an obtaining step of obtaining a telephone number of the second partner station or an IP address of the first partner station on the basis of an SIP;  
and

a control step of connecting, by using the telephone number of the second partner station or the IP address of the first partner station obtained in said obtaining step, the corresponding partner station, and transmitting/receiving the communication data to/from the corresponding partner station on the basis of a facsimile protocol.

29. A control program of a gateway apparatus including an IP communication means,  
transmitting/receiving communication data to/from a first partner station by using the IP communication means, and transmitting/receiving communication data to/from a second partner station according to a facsimile procedure by using the IP communication means, said program consisting of:

an obtaining step of obtaining a telephone number of the second partner station or an IP address

of the first partner station on the basis of an SIP;  
and

a control step of connecting, by using the  
telephone number of the second partner station or the  
5 IP address of the first partner station obtained in  
said obtaining step, the corresponding partner  
station, and transmitting/receiving the communication  
data to/from the corresponding partner station on the  
basis of a facsimile protocol.

10 30. A communication method of, by using an IP  
communication means, transmitting/receiving  
communication data to/from a first partner station,  
and transmitting/receiving communication data to/from  
a second partner station according to a facsimile  
15 procedure, said method comprising:

an obtaining step of obtaining a telephone  
number of the second partner station or an IP address  
of the first partner station on the basis of an SIP;  
and

20 a control step of connecting, by using the  
telephone number of the second partner station or the  
IP address of the first partner station obtained in  
said obtaining step, the corresponding partner  
station, and transmitting/receiving the communication  
25 data to/from the corresponding partner station on the  
basis of a facsimile protocol.